

## MONOLITHIC ELECTROACTIVE POLYMERS

### ABSTRACT OF THE DISCLOSURE

5       The present invention relates to polymers, transducers and devices that convert  
between electrical and mechanical energy. When a voltage is applied to electrodes  
contacting an electroactive polymer, the polymer deflects. This deflection may be used to do  
mechanical work. Similarly, when the electroactive polymer deflects, an electric field is  
10       produced in the polymer. This electric field may be used to produce electrical energy. An  
active area is a portion of a polymer having sufficient electrostatic force to enable deflection  
of the portion and/or sufficient deflection to enable a change in electrostatic force. The  
present invention relates to transducers and devices including multiple active areas. The  
invention also relates to methods for actuating one or more active areas.

Patented by the U.S. Patent and Trademark Office